

TRAFFIC CONCEPTS, INC.

Traffic Impact Studies • Feasibility • Traffic Signal Design • Traffic Counts • Expert Testimony

September 11, 2018

Ms. Phyllis G. Grover
Director of Planning and Community Development
City of Aberdeen
60 N. Parke Street
Aberdeen, MD 21001

RE: Aberdeen Corporate Park- MD 22 (Aberdeen Thruway)
Trip Generation Analysis
SHA Tracking No: 16APHA007XX
T/C 3291

Dear Ms. Grover:

The Aberdeen Corporate Park project developer, Upper Chesapeake Medical Center, proposes to modify the office/commercial center land use that was approved in 2009 to a medical office and hospital facility. Therefore, Traffic Concepts, Inc. has conducted a peak hour trip generation analysis. The analysis will determine if the number of peak hour trips generated by the new site plan will exceed the number of peak hour trips that were stated in the 2009 Traffic Impact Study and approved by the City of Aberdeen. A traffic study may be required if the proposed new trips are greater than the originally approved peak hour trips.

The peak hour trip generation analysis includes all trips that enter and exit the site, which includes the pass-by trips. The trip generation table shown below identifies the peak hour trips that were approved in the 2009 Aberdeen Corporate Park Traffic Impact Study.

TRIP GENERATION

	MORNING PEAK HOUR			EVENING PEAK HOUR		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Aberdeen Corporate Park						
250,000 sq.ft. General Office	343	47	390	61	298	359
12,000 sq.ft. High Turnover Restaurant	72	66	138	79	55	134
Pass-by trips (PM-43%)				34	24	58
Net Restaurant trips	72	66	138	45	31	76
				140	353	493
Net Increased Trips	415	113	528	106	329	435

Source: 2009 Traffic Impact Study & ITE Manual 8th Edition

2018 Proposed Uses

The developer proposes to utilize the existing 93,000 gsf building as a medical office building. Additionally, a new building will be constructed that is planned as a two story hospital. The following information provides specific details of the proposed uses planned in the new building.

The first floor will contain an emergency department with 25 beds with an additional 20 beds for 48 hour observation and inpatient care. This floor will also provide space for inpatient support services such as a laboratory, pharmacy, and imaging. Other accessory uses will include administrative offices, conference rooms, and an ambulance drop-off space. Patient surgical facilities will not be provided at this facility.

The second floor will contain an inpatient behavioral health hospital with 40 beds. Additionally, the basement area of the building will contain the building mechanicals, storage space, and space for a kitchen and cafeteria.

The peak hour trip generation for the new uses as described above were determined with the Institute of Transportation Engineers, Trip Generation Manual, 10th Edition (ITE).

TRIP GENERATION RATES

<u>Land Use/Land Use Code</u>	<u>Formula</u>	<u>Inbound/Outbound</u>
Medical Office (LUC 720)	$LN(AM\ Trips)=0.89 \times LN(ksf)+1.31$ Average Rate = 2.78	78%/22%
	$PM\ Trips=3.39(ksf)+2.02$ Average Rate = 3.46	28%/72%
<u>Land Use/Land Use Code</u>	<u>Formula</u>	<u>Trips</u>
Hospital (LUC 610)	$AM\ Trips=1.77(beds)+36.61$ Average Rate = 1.84	72%/28%
	$PM\ Trips=2.08(beds)-104.00$ Avg. Rate=1.89	28%.72%

	<u>AM</u>			<u>PM</u>		
	<u>IN</u>	<u>OUT</u>	<u>TOTAL</u>	<u>IN</u>	<u>OUT</u>	<u>TOTAL</u>
Medical Office						
ITE Land Use Code 720						
93ksf	202	57	259	90	232	322
Hospital						
ITE Land Use Code 610						
85 Beds	135	52	187	45	116	161
New Site Generated Trips			446			483

Conclusions

The trip generation analysis was conducted using the ITE, Trip Generation Manual that is required for use in trip generation studies by the MDOT SHA and all local jurisdictions in Maryland. As shown below, the analysis finds the newly proposed site plan would generate fewer peak hour trips than originally approved. Therefore, the peak hour impact at the site access points and at the surrounding intersections is less than that stated in the 2009 Traffic Impact Study.

	AM Peak Hour	PM Peak Hour
Original Approved Site Generated Trips	528	493
New Site Generated Trips	<u>446</u>	<u>483</u>
Difference	- 82	-10

Additionally, a new right-in/right-out access approved by MDOT SHA onto MD 22 will improve access to the property. The new access will reduce the right turning traffic at the MD 22 @ Middleton Road intersection. The new MD 22 access also will reduce right out traffic flows from McHenry Road (site access road) onto Middleton Road and will reduce left turn movements from Middleton Road onto McHenry Road.

Based on the peak hour trip information provided in this letter, we request this project be approved from a traffic impact standpoint. Please contact me if you have any questions or if you require additional information.

Sincerely,

TRAFFIC CONCEPTS, INC.



Mark Keeley, PTP

Project Manager

MKeeley@traffic-concepts.com

cc: Mr. Philip D Crocker, Senior Project Manager, Upper Chesapeake Medical Center
Mr. Paul Muddiman, Vice President, Morris & Ritchie Associates, Inc.

Attachments: ITE Trip Generation Worksheets

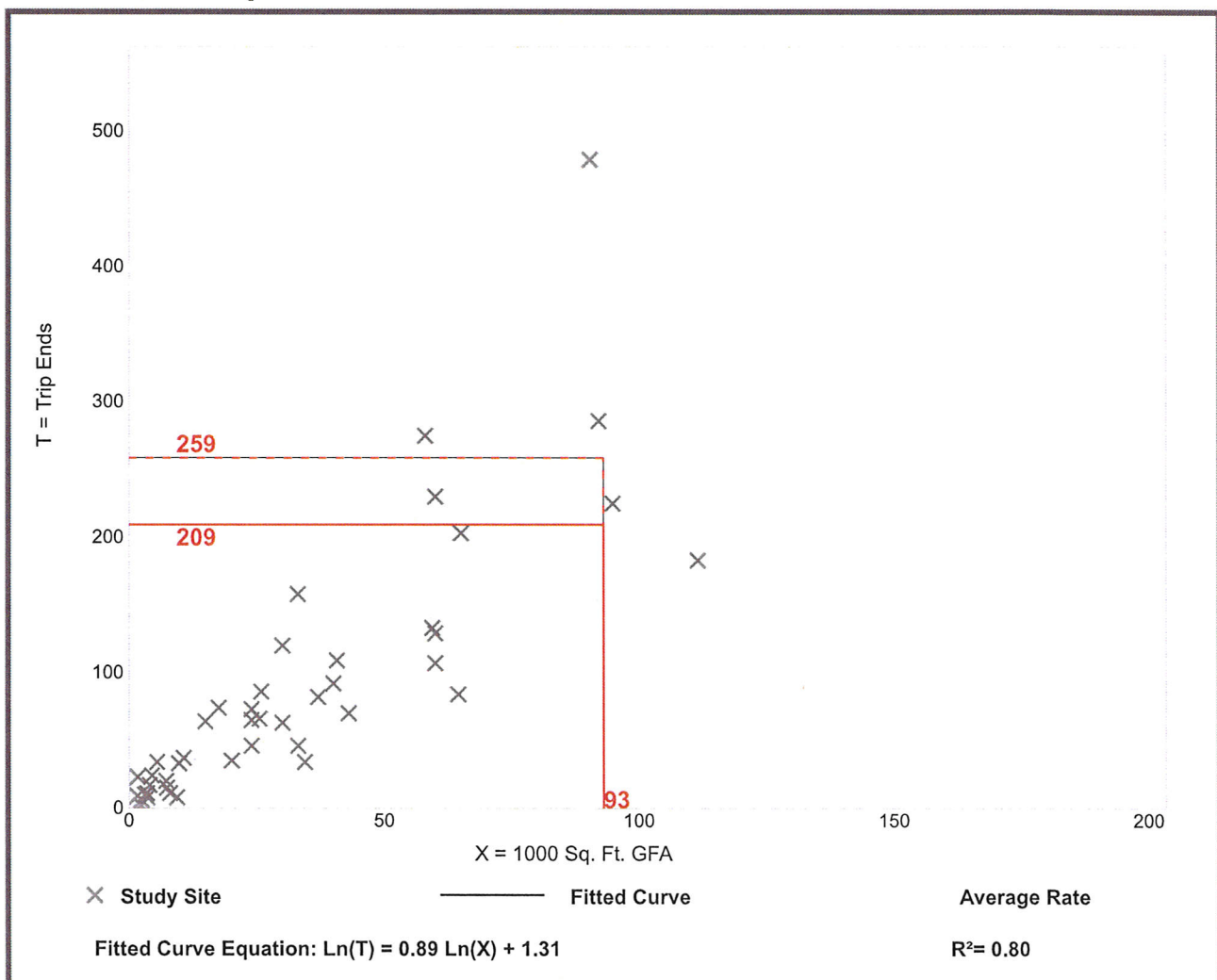
Medical-Dental Office Building (720)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 7 and 9 a.m.
 Setting/Location: General Urban/Suburban
 Number of Studies: 44
 Avg. 1000 Sq. Ft. GFA: 32
 Directional Distribution: 78% entering, 22% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.78	0.85 - 14.30	1.28

Data Plot and Equation



Medical-Dental Office Building (720)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 65

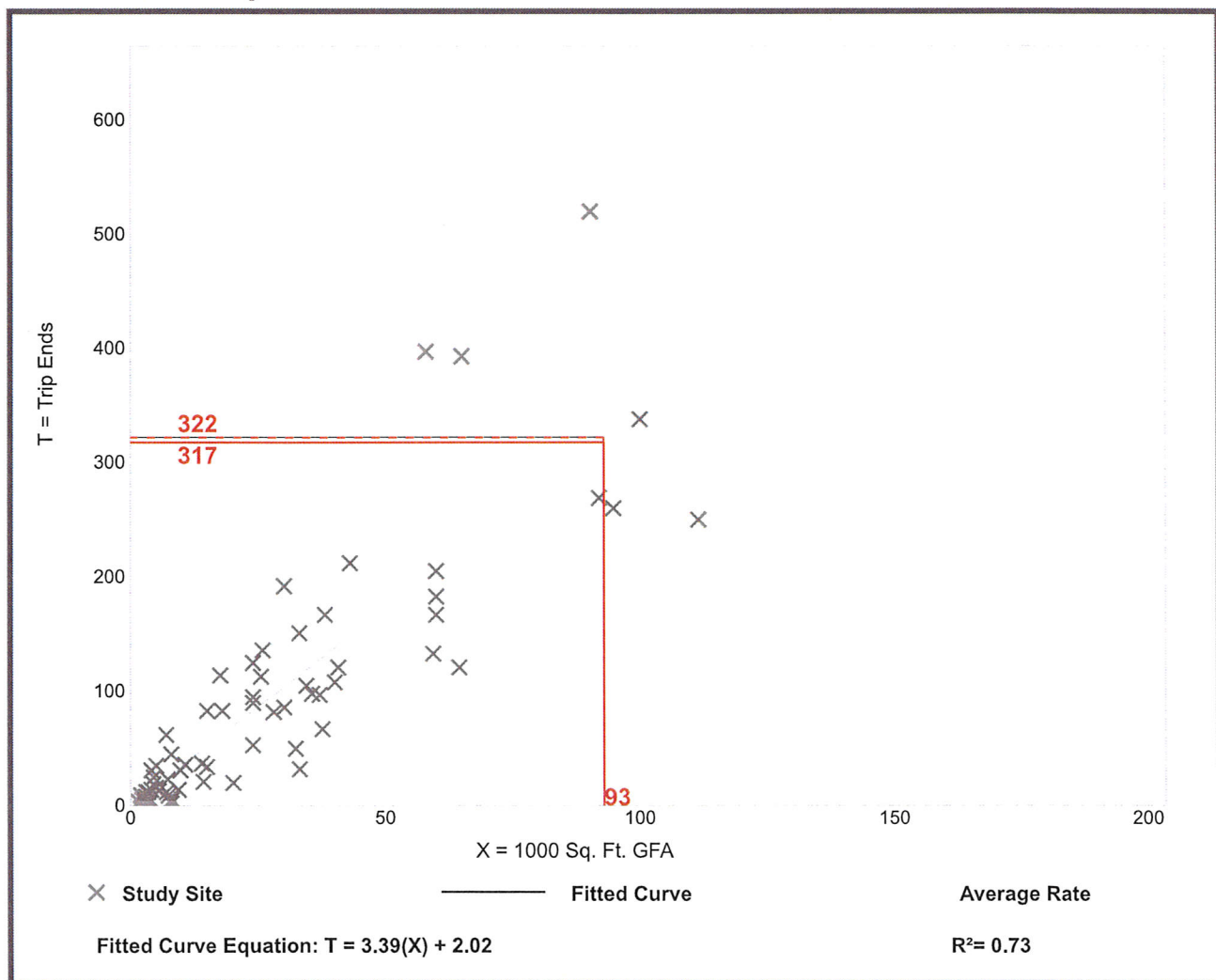
Avg. 1000 Sq. Ft. GFA: 28

Directional Distribution: 28% entering, 72% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.46	0.25 - 8.86	1.58

Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

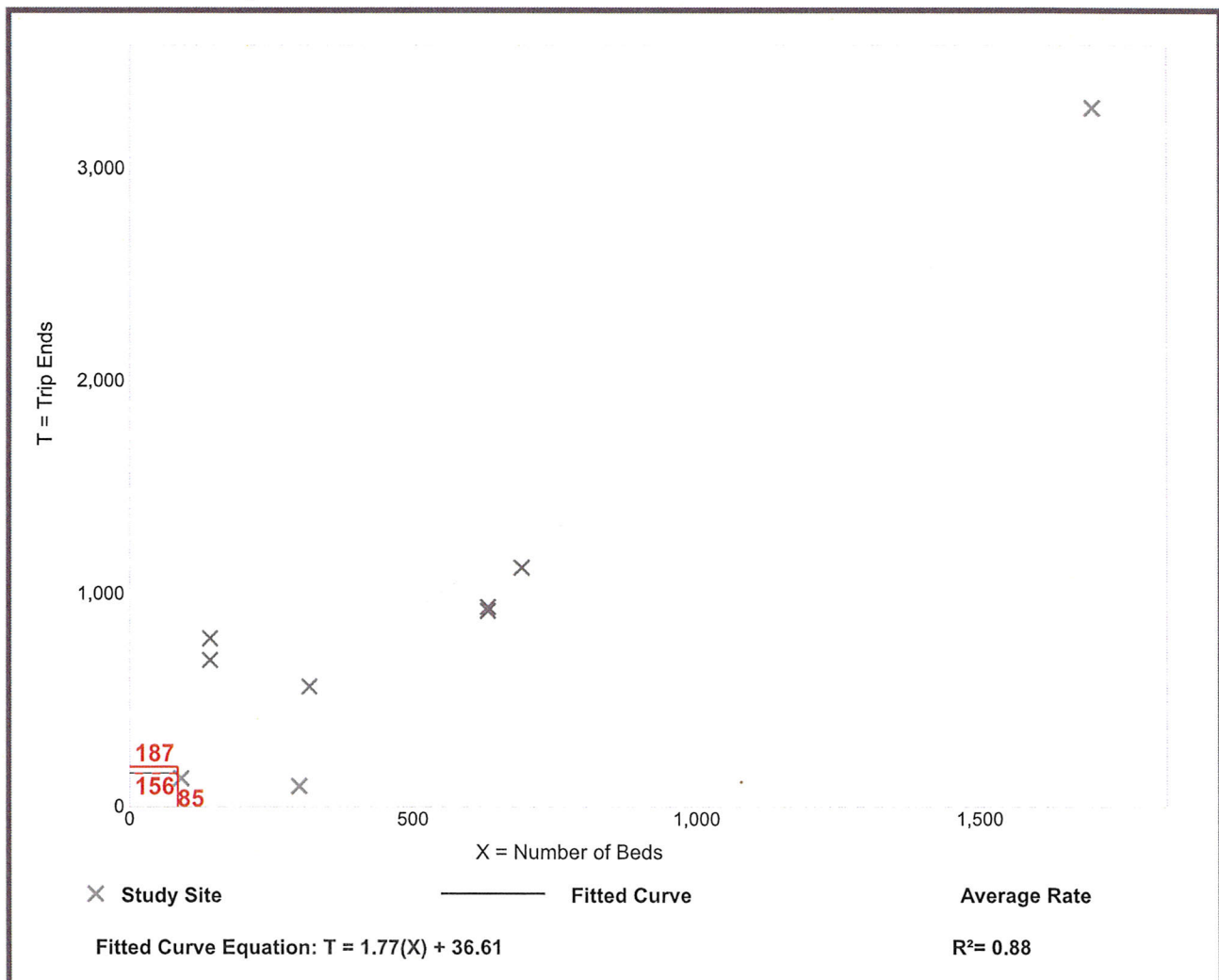
Hospital (610)

Vehicle Trip Ends vs: Beds
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 9
 Avg. Num. of Beds: 516
 Directional Distribution: 72% entering, 28% exiting

Vehicle Trip Generation per Bed

Average Rate	Range of Rates	Standard Deviation
1.84	0.32 - 5.59	1.01

Data Plot and Equation



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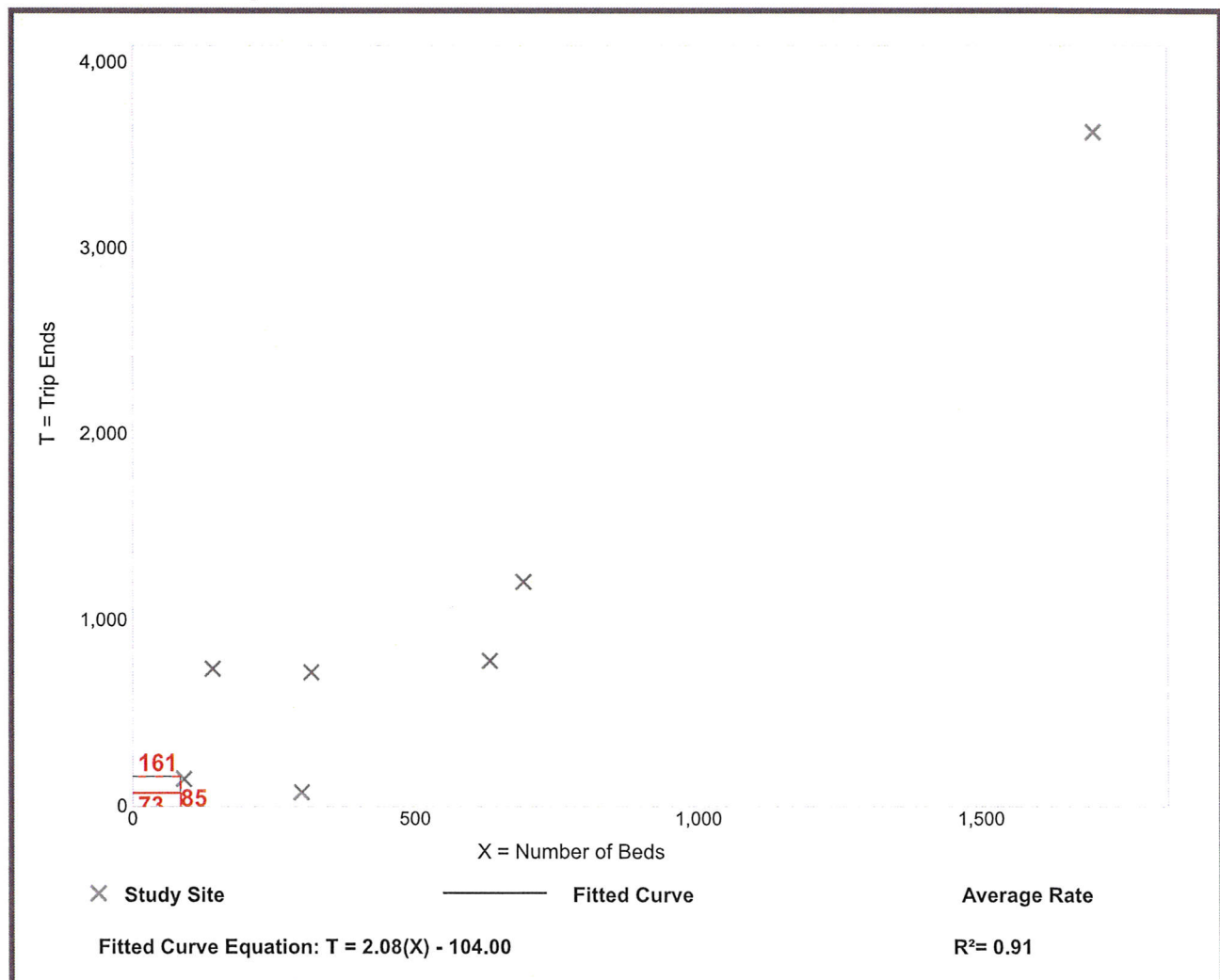
Hospital (610)

Vehicle Trip Ends vs: Beds
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 7
 Avg. Num. of Beds: 553
 Directional Distribution: 28% entering, 72% exiting

Vehicle Trip Generation per Bed

Average Rate	Range of Rates	Standard Deviation
1.89	0.26 - 5.22	0.92

Data Plot and Equation



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